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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/743,986

12/22/2003

Jeffrey C. Andle

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SALTAMAR INNOVATIONS
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EXAMINER

LARKIN, DANIEL SEAN

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/743,986

Applicant(s)

ANDLE, JEFFREY C.

Examiner

Daniel S. Larkin

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 31-43 and 48-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-30 and 44-47 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 22 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 22 December 2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Groups in the reply filed on 11 May 2005 is acknowledged. The traversal is on the ground(s) that the Examiner failed to establish that the groupings were both distinct and independent. Furthermore, the examiner failed to provide a showing that a burden was created when searching Groups I-V since the groups were classified in the same subclass. This is not found persuasive because while acknowledging that Groups I, II, and IV will be examined, the remaining groups, Groups III and V-VIII are in fact distinct from one another and independent. In each grouping comparison there is two-way distinctness, specifically, different claim limitations are present in each grouping which are not present in another grouping. In each instance, the groupings are independent from each other because they are patentably distinct from one another. Inventions placed within the same class and subclass can have different modes of operation and structure, yet still have a similar function, and be independent from one another. Additionally, applicant in the specification has identified each grouping as a different "aspect" of the preferred embodiment and has provided drawing figures representing each method of operation, which are each significantly different than the other figures presented.

The requirement is still deemed proper and is therefore made FINAL.

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2. Claims 31-43 and 48-60 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11 May 2005.

Drawings

3. The drawings are objected to because of the following:

Reference numeral "45", as shown in Figure 1, is not provided with a lead line.

Reference box "50", as shown in Figure 1, should also be labeled

-- power source -- in order to more easily identify the invention without having to look to the written specification for clarity and guidance.

Reference box "55", as shown in Figure 1, should also be labeled with the structure represented by the box or the function the structure performs.

Reference box "60", as shown in Figure 1, should also be labeled

-- insertion loss summation module --.

Reference box "65", as shown in Figure 1, should also be labeled with the structure represented by the box or the function the structure performs.

Reference box "225", as shown in Figure 2, should also be labeled

-- characteristic behavior of sensor --.

Reference box "200", as shown in Figure 2, should also be labeled

-- Input harmonic signal to input transducer 30 -- or something similar.

Reference box "210", as shown in Figure 2, should also be labeled

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-- Measure output of output transducer 40 --.

Reference box "215", as shown in Figure 2, should also be labeled

-- Compute geometric average of power level of sensor --.

Reference box "220", as shown in Figure 2, should also be labeled

-- Determine amplitude of crystal face displacement --.

Reference box "230", as shown in Figure 2, should also be labeled

-- Measure fluid viscosity --.

Reference box "235", as shown in Figure 2, should also be labeled

-- Assume or Measure fluid density --.

Reference box "240", as shown in Figure 2, should also be labeled

-- Calculate shear rate of fluid --.

Reference box "310", as shown in Figure 3, should also be labeled

-- characteristic behavior of acoustic wave device --.

Reference box "300", as shown in Figure 3, should also be labeled

-- Estimate displacement to achieve desired shear rate --.

Reference box "305", as shown in Figure 3, should also be labeled

-- Determine average power level --.

Reference box "315", as shown in Figure 3, should also be labeled

-- Determine output level using approximation of fluid viscosity --.

Reference box "320", as shown in Figure 3, should also be labeled

-- Apply estimated power to input transducer --.

Reference box "325", as shown in Figure 3, should also be labeled

-- Measure fluid viscosity --.

Reference box "330", as shown in Figure 3, should also be labeled

-- Measure and Calculate shear rate of fluid --.

Reference box "335", as shown in Figure 3, should also be labeled

-- Calculate error between desired shear rate and measured shear rate --.

Reference box "340", as shown in Figure 3, should also be labeled

-- Is error small? --.

Reference box "390", as shown in Figure 3, should also be labeled

-- Terminate process --.

Reference box "345", as shown in Figure 3, should also be labeled

-- Calculate new input power level --.

Reference box "350", as shown in Figure 3, should also be labeled

-- Adjust power level --.

Reference box "355", as shown in Figure 3, should also be labeled

-- Substitute estimated power level --.

Reference box "400", as shown in Figure 4, should also be labeled

-- Select a plurality of points for viscosity measurement --.

Reference box "410", as shown in Figure 4, should also be labeled

-- Measure viscosity and shear rate at each power level --.

Reference box "420", as shown in Figure 4, should also be labeled

-- Display and/or Store results --.

Reference box "430", as shown in Figure 4, should also be labeled

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-- Have all selected points or range of the continuum been measured? --.

Reference box "520", as shown in Figure 5, should also be labeled

-- driving electrical circuit --.

Reference box "525", as shown in Figure 5, should also be labeled

-- power level detector --.

Reference box "530", as shown in Figure 5, should also be labeled

-- detection module --.

Reference numerals "600" and "620", as shown in Figure 6, have not been provided with lead lines.

Reference box "625", as shown in Figure 6, should also be labeled

-- incident wave power detector --.

Reference box "650", as shown in Figure 6, should also be labeled

-- reflected signal power detector --.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

Reference numerals "20", "45", "55", and "65", as shown in Figure 1, do not appear within the written specification.

Reference numeral "650", as shown in Figure 6, does not appear within the written specification.

5. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The disclosure is objected to because of the following informalities:

Page 13, paragraph [0049], line 3: The term "transducers" should be corrected to read -- transducer --.

Page 13, paragraph [0051], line 3: A -- comma -- should be inserted after the term "density".

Page 17, paragraph [0061], line 1: The first occurrence of the term "figure" should be corrected to read -- Fig. --.

Page 17, paragraph [0062], line 1: The term "figure" should be corrected to read -- Fig. --.

Page 17, paragraph [0062], line 5: The numeral -- 605 -- should be inserted after the term "coupler".

Page 17, paragraph [0062], line 7: Reference numeral "630" should be corrected to read -- 650 --, as shown in Figure 6. Appropriate correction is required.

Claim Objections

7. Claims 1-30 and 44-47 are objected to because of the following informalities:

Re claim 1, claim line 13: The "comma" after the term "and" should be deleted.

Re claim 15, claim line 9: The phrase "the liquid" lacks antecedent basis.

Re claim 15, claim line 12: The "comma" after the term "and" should be deleted.

Re claim 44, claim line 5: The conjunction -- and -- should be inserted after the term "device". Appropriate correction is required.

Allowable Subject Matter

8. The following is a statement of reasons for the indication of allowable subject matter:

Prior art was not relied upon to reject claims 1-30 and 45-47 because the prior art fails to teach and/or make obvious the following:

Claims 1-14 and 45-47: Providing a method for measuring the shear rate of a fluid comprising the steps of: calculating the shear rate of the fluid at a selected region by using a frequency, a viscosity measurement, and an acoustic wave amplitude in combination with all of the remaining limitations of the claim.

Claims 15-30: Providing a method for measuring the shear rate of a fluid comprising the steps of: calculating the shear rate of the fluid at a selected region by using a frequency, a viscosity measurement, and a calculated penetration depth in combination with all of the remaining limitations of the claim.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The prior art to US 3,712,117 (Fitzgerald et al.) discloses a viscosity measuring system comprising a torsion member caused to oscillate within a fluid. A graph, Figure 3, is provided to highlight the viscosity-density product versus the frequency or shear rate.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Larkin whose telephone number is 571-272-2198. The examiner can normally be reached on 8:00 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Larkin
AU 2856
02 August 2005


DANIEL S. LARKIN
PRIMARY EXAMINER